

Nylon Gel Spinning :									
RXT-2 UNIT									
CHANGE NUMBERS WHERE IT IS BLUE COLOR									
MINIMUM PUMP RPM	8								
MAXIMUM PUMP RPM	40								
PUMP SIZE(CC/REV.)	1.16								
NUMBER OF FILAMENTS	14								
PUMP SPEED(RPM)	19.7								
POLYMER DENSITY(GM/CC)	0.98								
THRU-PUT(LBS/HR)	2.95969								
THRU-PUT PER FIL(LBS/HR)	0.21141	THRU-PUT PER FIL(GMS/MIN)	1.5982						
THRU-PUT(GMS/MIN)	22.395	THRU-PUT(GMS/MIN)	22.395						
THRU-PUT PER FIL(GMS/MIN)	1.59964								
TAKE-UP SPEED (Meter/min)	3000	FROM FT/MIN TO M/MIN	0.3048						
DPF GMS @TAKE-UP ROLL (UNDRAWN)	4.79892								
DTEX PER FIL GMS @TAKE-UP ROLL (UNDRAWN)	5.33213								
FIL DIAMETER , MICRONS (UNDRAWN)	22.1859		22.186						
FIL DIAMETER , mm (UNDRAWN)	0.02219								
TAKE-UP SPEED (FEET/min)	9842.52								
Spinnerette									
INCH	diameter	length	L/D	AREA					
CM	0.03	0.09	3	0.0007065					
YARN DENIER @TAKE-UP ROLL (GMS)	0.0762	0.2286	3	0.00455806					
FLOW RATE(CC/MIN)	67.1849								
JET VELOCITY (CM/MIN)	22.852								
JET VELOCITY (meter/MIN)	5013.54								
SPIN. CAPILLARY RADIUS (FT)	50.1354	DR @ (TAKE-UP ROLL)		59.8379407					
SPIN. CAPILLARY LENGTH (FT)	0.0025								
THRU-PUT PER FIL(LBm/HR)	0.0075								
DENSITY(LBm/FT3)	0.21141								
FLOW RATE(FT3/SEC.)	61.1814								
VISCOSITY (POISE)	9.8E-07								
VISCOSITY (LBf/SEC/FT2)	3143.9								
DELTA PRESSURE(PSI)	6.56634								
Stack Draw (calc. From spnt hole dia. And fil dia.)	21.4101								
FINAL REQUIRE DENIER AFTER DRAWIN	34.3462								
DRAWING DRAW RATIO	10								
	0.47989								

Table 1

Sample ID.	Starting Conditions	#1	#2	#3	#4	#5	#6	#7	#8
POLYMER TYPE	MBM	MBM		MBM 10% Lactam	MBM 10% Lactam	MBM 10% Lactam	MBM 10% Lactam	MBM 10% Lactam	MBM 10% Lactam
Feeder Setting	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96
Date	10/23/02	10/23/02	10/23/02	10/23/02	10/23/02	10/23/02	10/23/02	10/23/02	10/23/02
water on feeding zone	on	on	on	on	on	on	on	on	on
zone 1 Temp. (deg c)	245	270	250	250	245	240	235	230	225
zone 2 Temp. (deg c)	245	280	250	250	245	240	235	230	225
zone 3 Temp. (deg c)	245	280	250	250	245	240	235	230	225
zone 4 Temp. (deg c)	245	280	250	250	245	240	235	230	225
zone 5 Temp. (deg c)	245	280	250	250	245	240	235	230	225
zone 6 Temp. (deg c)	245	280	250	250	245	240	235	230	225
zone 7 Temp. (deg c)	245	280	250	250	245	240	235	230	225
8 Connecting Plate Temp. (deg. C)	245	280	250	250	245	240	235	230	225
9 Block Temp. (deg.C)	245	280	250	250	245	240	235	230	225
10 Spin Pump Temp. (deg.C)	245	280	250	250	245	240	235	230	225
11 Top Cap (deg.C)	245	280	250	250	245	240	235	230	225
12 Spin Peck Temp. (deg.C)	245	280	250	250	245	240	235	230	225
Top Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Top Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Barrel Melt Temp. (deg. c)	252	288	256	257	251	246	240	235	231
Melt Pump Inlet Pressure (psi)	7777	420	10	200	10	10	10	10	10
Melt Pump Outlet Pressure (psi)	7777	200	470	250	260	310	280	360	400
Extruder (rpm)	200	200	200	200	200	200	200	200	200
Spinneret: no. of holes / Shape	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R
Spinneret: capillary diameter & depth	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072
Metering pump size (cc/rev)	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Metering pump (rpm)	16.7	19.3	19.8	19.8	19.8	19.8	19.7	19.7	19.7
Thruput (lbs/hr)	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97
Filter type	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN
Monomer Exhaust Reading (inches water)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Quench air Flow rate (CFM)	14.2	14.2	14.2	14.2	14.2	14.2	15.5	15.9	14.9
Quench air Temp. (deg. c)	19	19	19	19	19	19	19.3	19.6	19.7
Quench air Humidity %	40.8	40.8	40.8	40.8	40.8	40.8	39.8	39.5	39
% Torque	70	25	29	22	20	21	20	24	24
Nitrogen in Hoper	3	3	3	3	3	3	3	3	3
Need : polymer chips moisture	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Need : Free fall samples for FAV, COOH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 2

Sample I.D.	#9	#10	#11	#12	#13	#14	#15	#16	#17
POLYMER TYPE	BHS	BHS 10% Lactam	BHS 10% Lactam	BHS 10% Lactam	BHS 10% Lactam	BHS 10% Lactam	BHS 10% Lactam	135 2.96	135 10% Lactam 2.96
Feeder Setting	2.96	on	on	on	on	on	on	on	on
water on feeding zone	252	252	247	242	237	232	227	260	260
zone 1 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 2 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 3 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 4 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 5 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 6 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
zone 7 Temp. (deg. c)	252	252	247	242	237	232	227	260	260
8 Connecting Plate Temp. (deg. C)	252	252	247	242	237	232	227	260	260
9 Block Temp. (deg.C)	252	252	247	242	237	232	227	260	260
10 Spin Pump Temp. (deg.C)	252	252	247	242	237	232	227	260	260
11 Top Cap (deg.C)	252	252	247	242	237	232	227	260	260
12 Spin Pack Temp. (deg.C)	252	252	247	242	237	232	227	260	260
Top Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Top Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Barrel Melt Temp. (deg. c)	259	260	254	249	245	240	235	270	269
Melt Pump Inlet Pressure (psi)	40	90	250	280	180	50	70	1200	300
Melt Pump Outlet Pressure (psi)	970	520	570	610	740	790	840	1600	1040
Extruder (rpm)	200	200	200	200	200	200	200	200	200
Spinneret: no. of holes / Shape	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R
Spinneret: capillary diameter & depth	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072
Metering pump size (cc/rev)	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Metering pump (rpm)	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7
Thruput (lb/hr)	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97
Filter type	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN
Monomer Exhaust Reading (inches water)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Quench air Flow rate (CFM)	14.6	14.5	14.6	14.9	15	14.6	14.9	14.5	15.1
Quench air Temp. (deg. c)	19.5	18.9	19.2	19.2	18.7	19	19.4	18.5	19.2
Quench air Humidity %	38.7	39.3	39.7	41.6	39.7	40.3	39.4	38.6	41.1
% Torque	42	27	29	30	28	30	29	56	37
Nitrogen in Hoper	3	3	3	3	3	3	3	3	3
Need : polymer chips moisture									
Need : Free fall samples for FAV, COOH									

Table 3

Sample I.D.	#18	#19	#20	#21	#22	#23	#24	#25	#26
POLYMER TYPE	135 10% Lactam	135 10% Lactam	135 10% Lactam	135 10% Lactam	135 10% Lactam	135 10% Lactam	135 10% Lactam	195	195 10% Lactam
Feeder Setting	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96
Date	10/24/02	10/24/02	10/24/02	10/24/02	10/24/02	10/24/02	10/24/02	10/24/02	10/24/02
water on feeding zone	on	on	on	on	on	on	on	on	on
zone 1 Temp. (deg. c)	255	250	245	240	235	230	225	300/289	290/273
zone 2 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
zone 3 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
zone 4 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
zone 5 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
zone 6 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
zone 7 Temp. (deg. c)	255	250	245	240	235	230	225	300	290
8 Connecting Plate Temp. (deg. C)	255	250	245	240	235	230	225	300	290
9 Block Temp. (deg. C)	255	250	245	240	235	230	225	300	290
10 Spin Pump Temp. (deg. C)	255	250	245	240	235	230	225	300	290
11 Top Cap (deg. C)	255	250	245	240	235	230	225	300	290
12 Spin Pack Temp. (deg. C)	255	250	245	240	235	230	225	300/300	290
Top Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Top Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Barrel Melt Temp. (deg. c)	284	259	253	248	243	238	232	312	299
Melt Pump Inlet Pressure (psi)	630	470	450	630	800	580	190	1480	1080
Melt Pump Outlet Pressure (psi)	1080	1140	1260	1280	1330	1480	1700	1280	790
Extruder (rpm)	200	200	200	200	200	200	200	200	200
Spinneret: no. of holes / Shape	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R	14 R
Spinneret: capillary diameter & depth	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072
Metering pump size (cc/rev)	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Metering pump (rpm)	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7
Thruput (lbs/hr)	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97
Filter type	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN
Monomer Exhaust Reading (inches water)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Quench air Flow rate (CFM)	15.2	14.9	14.5	14.4	14.9	14	14.2	14.6	14.8
Quench air Temp. (deg. c)	20.1	19.5	18.7	19	18.9	19.1	18.7	18.9	19.5
Quench air Humidity %	39.4	40.7	39.7	40.1	41.3	38.7	39.1	98.8	39.1
% Torque	39	38	40	37	39	40	42	52	38
Nitrogen In Hoper	3	3	3	3	3	3	3	3	3
Need : polymer chips moisture									
Need : Free fall samples for FAV, COOH									

Table 4

Sample I.D.	#27	#28	#29	#30
POLYMER TYPE	195 10% Lactam	195 10% Lactam	195 10% Lactam	195 10% Lactam
Feeder Setting	2.96	2.96	2.96	2.96
Date	10/24/02	10/24/02	10/24/02	10/24/02
water on feeding zone	on	on	on	on
zone 1 Temp. (deg c)	285/270	280/286	275/263	270/259
zone 2 Temp. (deg c)	285	280	275	270
zone 3 Temp. (deg c)	285	280	275	270
zone 4 Temp. (deg c)	285	280	275	270
zone 5 Temp. (deg c)	285	280	275	270
zone 6 Temp. (deg c)	285	280	275	270
zone 7 Temp. (deg c)	285	280	275	270
8 Connecting Plate Temp. (deg. C)	285	280	275	270
9 Block Temp. (deg.C)	285	280	275	270
10 Spin Pump Temp. (deg.C)	285	280	275	270
11 Top Cap (deg.C)	285	280	275	270
12 Spin Pack Temp. (deg.C)	285	280	275	270
Top Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx
Top Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Length (inches)	xxxx	xxxx	xxxx	xxxx
Bottom Heated Sleeve Temp. (deg. c)	xxxx	xxxx	xxxx	xxxx
Barrel Melt Temp. (deg. c)	298	289	284	279
Melt Pump Inlet Pressure (psi)	1250	50	860	1080
Melt Pump Outlet Pressure (psi)	860	890	970	1100
Extruder (rpm)	200	200	200	200
Spinneret: no. of holes / Shape	14 R	14 R	14 R	14 R
Spinneret: capillary diameter & depth	.024 X 0.072	.024 X 0.072	.024 X 0.072	.024 X 0.072
Metering pump size (cc/rev)	1.18	1.18	1.18	1.18
Metering pump (rpm)	19.7	19.7	19.7	19.7
Thruput (lbs/hr)	2.97	2.97	2.97	2.97
Filter type	STD SCREEN	STD SCREEN	STD SCREEN	STD SCREEN
Monomer Exhaust Reading (inches water)	open	open	open	open
Quench air Flow rate (CFM)	14.7	14.7	14.2	13.9
Quench air Temp. (deg. c)	19.2	19.7	20	18.7
Quench air Humidity %	46.1	41.5	43.1	39.4
% Torque	41	28	37	41
Nitrogen In Hoper	3	3	3	3
Need : polymer chips moisture				
Need : Free fall samples for FAY, COOH				

Table 5